

Claim Listing

Claim 1 was pending. Please cancel claim 1 and add claims 2-21 listed below.

1. (Canceled)
2. (New) A foundation support system comprising a form means configured to receive a cementitious material in a fluid form for subsequent curing, said form means dimensioned so that said cementitious material, after it has cured, is shaped on a lower portion so as to cleave soil if said soil heaves.
3. (New) A system as in claim 2, wherein said lower portion has an inverted wedge shape.
4. (New) A system as in claim 2, wherein said lower portion has a pyramidal shape.
5. (New) A system as in claim 2, wherein said form means has a lower section and an upper section, and wherein said upper section is configured to contain said lower portion of said cementitious material.
6. (New) A system as in claim 2, wherein (a) said form means comprises an upper section and a lower section, (b) said lower section has a first hole in alignment with a second hole in said upper section, and (c) said first hole has a cross-sectional area different from that of said second hole.
7. (New) A system as in claim 6, wherein said first hole and said second hole are both circular.
8. (New) A system as in claim 2, wherein said cementitious material comprises a plurality of corrugated steel fibers dispersed so as to provide primary re-enforcing for said material.
9. (New) A system as in claim 6, further comprising a linearly-tapered dowel configured to be inserted into said form means and pressure-fit into said first and second holes.
10. (New) A system as in claim 9, wherein at least one end of said dowel has a tapping point for loosening said dowel after said cementitious mixture has set.

11. (New) A system as in claim 6, wherein said upper section is configured to accept a removable cap, said cap to be removed to permit entry of said cementitious material and replaced during a curing period.

12. (New) A system as in claim 6, wherein said lower section is configured to accept at least one anchor bolt.

13. (New) A system as in claim 6, wherein said lower section is configured to allow placement on a casting base.

14. (New) A system as in claim 2, wherein said form means comprises three or more approximately vertical sides.

15. (New) A system as in claim 14, wherein (a) said form means comprises a first side and a second side, (b) said first side has a first hole in alignment with a second hole in said second side, and (c) said first hole has a cross-sectional area different from that of said second hole.

16. (New) A system as in claim 15, further comprising a linearly-tapered dowel configured to be inserted into said form means and pressure-fit into said first and second holes.

17. (New) A method for providing foundational support resistant to soil heave, comprising the steps of:

forming a cementitious material using a form, wherein (a) said form has at least two sides and is dimensioned so that said cementitious material, after it has cured, is shaped on a lower portion so as to cleave soil when said soil heaves, (b) a first side of said form has a first hole in alignment with a second hole in a second side of said form, (d) said first hole has a cross-sectional area different from that of said second hole, (e) a linearly-tapered dowel pin has been inserted into said form and pressure-fit into said first and second holes;

removing said linearly-tapered dowel pin from said cementitious material and said form after said cementitious material has set, thereby forming a tapered cavity in said cured cementitious material,

after said cementitious material has cured, inserting a pile into said tapered cavity, wherein said pile has a maximum cross-sectional area less than that of the larger of said first and second holes.

18. (New) A method as in claim 17, further comprising embedding a plurality of corrugated steel fibers in said cementitious material for primary re-enforcing.

19. (New) A method as in claim 17, wherein said first side of said form is comprised in an upper section of said form and said second side of said form is comprised in a lower section of said form.

20. (New) A method as in claim 17, further comprising driving said pile into soil until said pile penetrates said soil at or below a frost line.

21. (New) A method as in claim 17, further comprising driving said pile into soil until said pile penetrates said soil at or below a heaving line.